

### Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

#### Listing of Claims

Claim 1. (Currently amended) [[:]] A blood treatment device ~~having~~ comprising a blood purification element ~~(1)~~ which is divided into two chambers by a semipermeable membrane ~~(3)~~, ~~its~~ with a first chamber ~~(4)~~ being part of a dialysis fluid circuit ~~(20)~~ and ~~its~~ a second chamber ~~(2)~~ being part of an extracorporeal blood circuit ~~(10)~~,

~~having~~ a dialysis fluid inlet line ~~(22)~~ which leads from a dialysis fluid processing unit ~~(21)~~ to supply fresh dialysis fluid to at least one of the first chamber ~~(4)~~ ~~and/or~~ and directly into the blood circuit ~~(10)~~,

~~having~~ a dialysis fluid outlet line ~~(23)~~ for removing spent dialysis fluid from the first chamber ~~(4)~~,

~~having~~ a blood inlet line ~~(11)~~ for supplying blood to the second chamber ~~(2)~~,

~~having~~ a blood return line ~~(12)~~ for returning blood from the second chamber ~~(2)~~,

~~having~~ a control unit ~~(34)~~ for controlling the blood treatment device,

~~having~~ an analyzer unit ~~(32)~~ which is connected to the control unit ~~(34)~~, and

having at least one sensor (31) which is connected to the analyzer unit (32) on at least one of the blood circuit (10) ~~or~~ and the dialysis fluid circuit (20) for detecting the concentration of a substance which is capable of penetrating through the semipermeable membrane (3),

~~whereby the analyzer unit (32) is suitable for~~  
~~determining~~ being configured (i) to determine on the basis of ~~the~~ measured detected values of the at least one sensor (31) the concentration  $C_{bi}$  of ~~this~~ the substance in the blood in the blood inlet line (11), the instantaneous transfer rate  $\Delta M/\Delta t$  of ~~this~~ the substance through the membrane, (3) and the total quantity  $M$  of ~~this~~ the substance withdrawn through the membrane (3) during the treatment, ~~whereby~~ (ii) to store a first admissible value range for the blood concentration  $C_{bi}$  of the substance, a second admissible value range for the transfer rate  $\Delta M/\Delta t$ , and a third admissible value range for the total quantity  $M$  of the substance to be withdrawn ~~are stored in the analyzer unit (32), and whereby~~  
~~the analyzer unit (32) is designed so that it instructs~~ (iii) to instruct the control unit (34) ~~to the extent~~ such that the blood treatment device performs the blood treatment while maintaining all three of the admissible value ranges.

~~Claim~~ 2. (Currently amended) [[:]] The blood treatment device according to Claim 1, ~~characterized in that~~ wherein the at least

one sensor ~~(31)~~ is provided in the dialysis fluid outlet line ~~(23)~~ for determining the a concentration Cdo.

~~Claim~~ 3. (Currently amended) [[:]] The blood treatment device according to Claim 2, ~~characterized in that~~ wherein a second sensor is provided in the dialysis fluid inlet line ~~(22)~~ for determining the a concentration Cdi of the substance and is also connected to the analyzer unit ~~(32)~~.

~~Claim~~ 4. (Currently amended) [[:]] The blood treatment device according to Claim 2, ~~characterized in that the~~ wherein a concentration Cdi of the substance in the dialysis fluid inlet line ~~(22)~~ is predetermined by at least one of the control unit ~~(34) and/or~~ and the analyzer unit ~~(32)~~.

~~Claim~~ 5. (Currently amended) [[:]] The blood treatment device according to Claim 1, ~~characterized in that~~ wherein the substance is potassium.

~~Claim~~ 6. (Currently amended) [[:]] The blood treatment device according to Claim 1, ~~characterized in that~~ wherein the second value range extends from zero up to a maximum value.

~~Claim~~ 7. (Currently amended) [[:]] The blood treatment device according to Claim 1, ~~characterized in that~~ wherein a target

value Mend which is within the third value range is stored in the analyzer unit (32) for the total quantity of the substance to be withdrawn.

Claim 8. (Currently amended) [[:]] The blood treatment device according to Claim 7, ~~characterized in that~~ wherein the analyzer unit (32) instructs the control unit (34) that the target value Mend has been reached after a planned treatment time.

Claim 9. (Currently amended) [[:]] The blood treatment device according to Claim 7, ~~characterized in that~~ wherein the analyzer unit (32) instructs the control unit (34) that on reaching the target value Mend the blood treatment is to be continued with a concentration Cdi of the substance in the dialysis fluid inlet line (22) such that there is no longer any transfer of the substance (3) through the membrane.

Claim 10. (Currently amended) [[:]] The blood treatment device according to Claim 1, ~~characterized in that~~ wherein the control unit (34) is ~~suitable~~ configured for ordering an initial measurement of the blood concentration Cbi with preset treatment parameters and the analyzer unit (32) is ~~suitable~~ configured for determining ~~the~~ an initial value of Cbi, and ~~taking into account this~~ based on the initial value of Cbi, the first admissible value range and the second admissible value range for the blood

treatment, proposing a value for ~~the~~ at least one of a  
concentration  $C_{di}$  of the substance in the dialysis fluid inlet  
line (22), ~~the~~ and a dialysis fluid flow  $Q_d$  ~~and/or the~~ and a  
blood flow  $Q_b$ .

~~Claim~~ 11. (Currently amended) [[:]] The blood treatment device  
according to Claim 10, ~~characterized in that~~ wherein the analyzer  
unit (32) determines the concentration  $C_{di}$  based on ~~the basis of~~  
the value which corresponds to ~~the~~ a lower limit of the first  
admissible value range.

~~Claim~~ 12. (Currently amended) [[:]] The blood treatment device  
according to Claim 10, ~~characterized in that~~ wherein the analyzer  
unit (32) determines the concentration  $C_{di}$  by ~~the~~ an upper limit  
of the second admissible value range.

~~Claim~~ 13. (Currently amended) [[:]] The blood treatment device  
according to Claim 11, ~~characterized in that selection means~~  
~~regarding a prioritization of~~ wherein a selection device for  
prioritizing the withdrawal ~~{of the substance}~~ are of the  
substance is provided on ~~the~~ an input device ~~(35) unit~~ by an  
alignment with the lower limit of the first admissible value  
range or the upper limit of the second admissible value range.